

Inhalation Pathway

Introduction

1. Today's Presentation
2. Initial Task
3. Subcommittee's Deliberations
4. Standard Development and Compliance

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Standard Development

1. Volatiles and Particulates
2. Exposure Scenario Assumptions

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Alternative Remediation Standards

1. Brownfield Act allows site specific inputs
2. Alternative proposals - models

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Compliance

1. Fixed Area and Depth Approach
2. Averaging – 95% UCL of the Mean
3. 95% UCL of the Mean is Compared to Standard

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Optional Compliance

1. Optional Approach
2. Clean and Contaminated Zones
3. Averaging – 95% UCL of the Mean for each Zone
4. Adjusted Average is Compared to Standard

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Critical Parts of the Inhalation Pathway Basis and Background

1. Summary of the Standards,
Table 7 Section V
2. Compliance Protocol,
Appendix J

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Table 7:

Residential

Nonresidential - less than 2 acres

Nonresidential - equal or greater than 2
acres

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Compliance Examples

Assume:

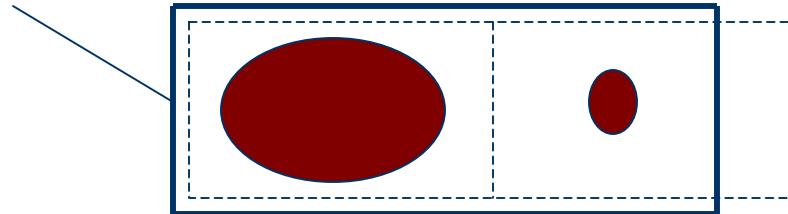
1. Surficial distribution (less than 2 feet in depth) by a particulate contaminant
2. Two nonresidential sites - One is 3.5 acres and the other is 2.5 acres

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Compliance

Site boundary (3.5 acre site)

2 Acre Compliance Layer

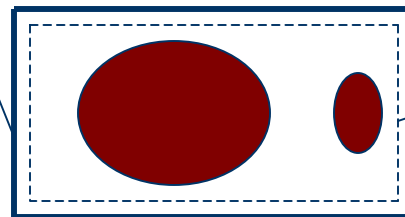
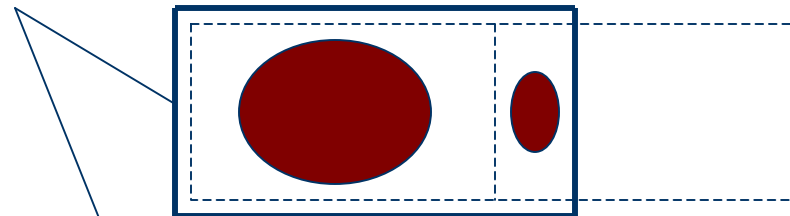


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Compliance

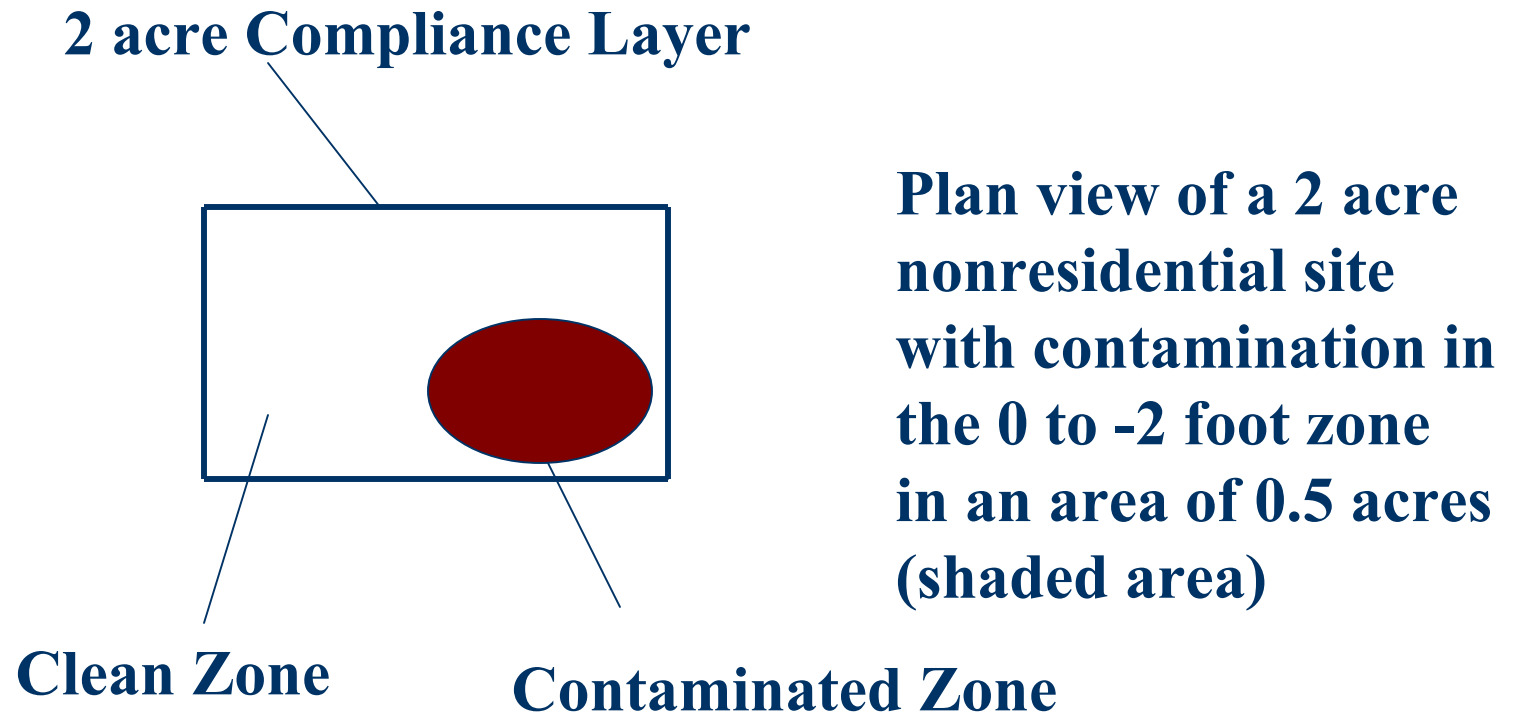
Site boundary (2.5 acre site)

2 acre Compliance Layer



2.5 acre Compliance Layer

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Assume:

1. A standard of 100 mg/kg
2. The contaminated zone has a 95% UCL of the mean of 200 mg/kg
3. The clean zone has a 95% UCL of the mean of 25 mg/kg

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Then, Within the Compliance Layer:
Contaminated Zone

$$200 \text{ mg/kg} \times 0.5 \text{ acre} = 100 \text{ (mg acre)/(kg)}$$

Clean Zone

$$25 \text{ mg/kg} \times 1.5 \text{ acre} = 37.5 \text{ (mg acre)/(kg)}$$

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**Calculating the Compliance Layer Average
Using the Averages from Both Zones:**

$$\frac{100 \text{ (mg acre)/(kg)} + 37.5 \text{ (mg acre)/(kg)}}{(2 \text{ acre})} =$$

68.75 mg/kg

**Since 68.75 mg/kg is less than 100 mg/kg, there is
no regulatory concern**

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Questions or Constructive Criticism

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